CLAIMS

1. A device (10) for driving a phase-change medium (1) having a layer (6) made of a material capable of changing locally between an amorphous state and a crystalline state, said material been characterized by a maximum crystalline velocity above which change from said amorphous state to said crystalline state cannot be achieved, said device comprising:

5   - a user interface (26) through which a user can select an operating mode amongst a plurality of operating modes including a writing mode for writing data on said medium by locally changing said material from said crystalline state to said amorphous state and an erasing mode for erasing data written on said medium by locally changing said material back from said amorphous state to said crystalline state,

10   - means for producing a laser beam for scanning said medium,

   - means (40) for controlling the power of said laser beam depending on the selected operating mode, and

   - means (72) for rotating said medium at a linear velocity that depends on the selected operating mode, the linear velocity applied in said writing mode being much higher than said

15   maximum crystalline velocity, and the linear velocity applied in said erasing mode being equal to or lower than said maximum crystalline velocity.

2. A device as claimed in claim 1, wherein said user interface is further designed so as to allow selection of a reading mode for reading the data written on said medium.

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3. A device as claimed in claim 1, comprising means for reading on said medium the value of the power and the linear velocity to be used in said erasing mode.

4. A device as claimed in claim 1 wherein said user interface is designed so as to allow the

25   user for selecting an area of data to be erased on said medium, said device comprising means (34) for controlling the position of said laser beam so as to scan only said area of data in said erasing mode.

5. A device as claimed in claim 4, comprising means for determining the location on said

30   medium of said area of data by looking said location up in a list of recorded-areas stored on said medium, and means for removing said area of data from said list of recorded-areas after said area of data was erased.

6. A device as claimed in claim 1, comprising means for determining the area(s) of the medium where data are written, and means for controlling the position of said laser beam so as to scan only said area(s) of data in said erasing mode.

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7. A phase-change medium having:

a) a layer made of a material capable of changing locally between an amorphous state and a crystalline state when heated by a laser having an appropriate power while said medium is rotated at an appropriate linear velocity, said material been characterized by a maximum

10   crystalline velocity above which change from said amorphous state to said crystalline state cannot be achieved,

b) a wobbled track which wobbling carries medium-related information, said medium-related information comprising the value of:

- the power and the linear velocity, referred to as writing power and writing linear velocity, to

15   be used for locally changing said material from said crystalline state to said amorphous state,

- the power and the linear velocity, referred to as erasing power and erasing linear velocity, to be used for locally changing said material from said amorphous state to said crystalline state,

- wherein said writing linear velocity is much higher than said maximum crystalline velocity and said erasing linear velocity is not higher than said maximum crystalline velocity.

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8. A method for driving of a phase change medium having a layer made of a material capable of changing locally between an amorphous state and a crystalline state, said material been characterized by a maximum crystalline velocity above which change from said amorphous state to said crystalline state cannot be achieved, said method comprising the

25   steps of:

- reading a user selection amongst a plurality of available operating modes including a writing mode for writing data on said medium by locally changing said material from said crystalline state to said amorphous state and an erasing mode for erasing data written on said medium by locally changing said material back from said amorphous state to said crystalline

30   state,

- producing a laser beam for scanning said medium,

- controlling the power of said laser beam depending on the selected operating mode, and

- rotating said medium at a linear velocity that depends on the selected operating mode, the linear velocity applied in said writing mode being much higher than said maximum

crystalline velocity, and the linear velocity applied in said erasing mode being equal to or lower than said maximum crystalline velocity.